

GRANT & HACKH'S CHEMICAL DICTIONARY

[American, International, European and British Usage]

*Containing the Words Generally Used in Chemistry,
and Many of the Terms Used in the Related
Sciences of Physics, Medicine, Engineering,
Biology, Pharmacy, Astrophysics,
Agriculture, Mineralogy, etc.*

Based on Recent Scientific Literature

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dipipanone hydrochloride $C_{24}H_{31}ON \cdot HCl \cdot H_2O = 404.0$.

4,4-Diphenyl-6-(1-piperidyl)-3-heptanone. White, bitter crystals, m. 125, soluble in water; a powerful analgesic for severe pain, but use limited by risk of addiction (BP).

dipiperidyls Compounds formed by reduction of pyridine or bipyridyl. Soluble in water, giving strongly alkaline solutions which absorb carbon dioxide readily and regenerate it if heated.

diplococci An antibiotic from certain strains of milk streptococci; used to treat bovine mastitis.

diplogen Deuterium*.

diploid Describing cells having a normal duplicate number of chromosomes. **d. number** The 46 chromosomes normally present in the nuclei of human cells, established at fertilization by the union of sperm and ovum, each of which carries the haploid number of 23 chromosomes. The **d. n.** is specific to each plant and animal species; as, dog 78, horse 66. See **haploid number**.

diplo methane Deuteriomethane.

diploon Deuteron.

dipole (1) A coordinated valence link between 2 originally neutral atoms, whereby one loses and the other gains a share of 2 electrons. Cf. **covalence**. (2) The electrical symmetry of a charge of positive electricity very close to an equal negative charge; measured by the **d. moment**. **d. moment** A molecular constant (p or μ) indicating the distribution of electrical charges in a neutral molecule. It is zero if they are symmetrically distributed. One coulomb-meter = 2.99793×10^{29} debye = 2.99793×10^{11} esu. Cf. **Debye-Hückel theory**, **association**.

Dippel, Johann Konrad (1673-1734) German alchemist. **D.'s oil** The distillation product of bones and other animal matter, chiefly containing pyridine and bases. Formerly used to denature alcohol.

dipropargyl (1) Bis(propynyl). (2) Prefix indicating two 2-propynyl* radicals.

dipropyl* Prefix indicating 2 propyl radicals, $MeCH_2CH_2-$.

d. amine $Pr_2NH = 101.2$. Colorless liquid, b. 110, soluble in water.

d. beryllium* $Pr_2Be = 95.2$. Colorless liquid, b. 245.

d. cadmium* $Pr_2Cd = 198.6$. Colorless liquid, b. 21 mm, 84.

d. ether* Propyl ether. **d. ketone*** 4-Heptanone*.

d. methanol $Pr_2CHOH = 116.2$. Heptan-4-ol, 3-propylbutanol. Colorless liquid, b. 154, soluble in alcohol.

d. mercury* $Pr_2Hg = 286.8$. Colorless liquid, b. 190, insoluble in water.

d. sulfide* $Pr_2S = 118.2$. Propyl thioether.

Colorless liquid, b. 141, insoluble in water. **d. tin*** $Pr_2Sn = 204.9$. Colorless liquid.

d. tin dibromide* $Pr_2SnBr_2 = 364.7$. Yellow crystals, m. 54.

d. tin dichloride* $Pr_2SnCl_2 = 275.8$. White crystals, m. 81.

diprotocatechuic acid $C_{14}H_{10}O_7 = 290.2$. Needles, m. 237, soluble in alcohol; occurs in tannins. Cf. **dirosorcylic acid**.

dipsomania Acute craving for alcohol.

dipyrazolone A compound containing 2 pyrazolone groups.

dipyridine $C_{10}H_{10}N_2 = 158.2$. Colorless needles, m. 108, soluble in water. Cf. **bipyridyl***.

dipyridyl Bipyridyl*.

diquat* See **herbicides**, Table 42 on p. 281.

diquinidine Diconchicine. An alkaloid from cinchona.

diquinoline Biquinoline.

diquinolyl Biquinolyl.

Dirac constant Symbol: \hbar . The Planck constant divided by 2π ; i.e., 1.05458×10^{-34} Js.

direct dyes Substantive dyes.

direct-vision spectroscopy A spectroscopy with prisms arranged so that the emergent rays follow the direction of the incident rays.

dirosorcinol $C_{12}H_{10}O_4 \cdot 2H_2O = 254.2$. White crystals, m. 310, soluble in hot water.

dirosorcylic acid $(HO)_2 \cdot C_6H_3 \cdot COO \cdot C_6H_3(OH)_2COOH = 307.2$. An isomer of digentisic acid. Microneedles, decomp.

215, soluble in hot water; occurs in tannins.

disaccharides Carbohydrates formed from 2 simple sugars (monosaccharides) and yielding them on hydrolysis. See **carbohydrates**.

disagglomeration The chemical transformation of compact masses into a fine powder.

disalicylic acid (1) Salicylide. (2) Diplosal.

disassimilation Oxidation of assimilated material, which liberates energy.

disassociation Dissociation. **photo ~** The disarrangement of molecules under the influence of light; e.g., with silver salts.

disazo compound Bisazo compound.

disc Disk.

discharge (1) The sudden escape or liberation of stored or accumulated energy; e.g., electricity (spark discharge), or chemical energy (explosion). (2) Any waste liquid from a manufacturing plant. (3) The output of a pump. **disruptive ~** A crackling d. of electric energy. **silent ~** A gradual loss of electric energy due to the conductivity of air. Cf. **saturation current**.

Dische reaction The development of a blue color when a substance is heated with diphenylamine under standard conditions. A stain reaction for nuclear substances in cells, due to the presence of deoxyribose. Cf. **Feulgen reaction**.

Discol Trademark for an internal-combustion fuel: alcohol 50, benzene 25, hydrocarbons 25%.

discrasite Dyscrasite.

discutient A drug which dissipates morbid matter.

diselane* H_2Se_2 .

diselenide A compound of the type $R \cdot Se \cdot Se \cdot R$.

disgregation Dispersion. Cf. **aggregation**.

dish A shallow or flat glass or metal vessel. **crystallizing ~**

A shallow glass d. used for evaporation and crystallization.

culture ~ A shallow flat-bottom d. of heavy glass; used to grow bacteria cultures (petri d.).

filtering ~ A d.-shaped cone of porous material. **incineration ~** See **incineration**.

dish. moisture ~ A d. with a ground glass stopper.

disilane See **disilane** under **silane**.

disilanyl* The radical Si_2H_5- . Cf. **disilyl**.

disilicic acid See **silicic acid**.

disiloxane* $(SiH_3)_2O = 78.2$. Colorless, odorless, combustible gas, b. -15.

disilyl* Indicating two silyl, SiH_3- , groups.

disinfect(ion) To free from infection, by destroying or removing harmful microorganisms. Cf. **sterilization**.

disinfectant An agent that disinfects, and usually destroys microorganisms but not bacterial spores; e.g., chlorine, phenol.

disinfest To free from infesting insects, rodents, or other small animals. Cf. **disinfect**.

disintegration (1) Decomposition. (2) See **atomic energy**.

artificial ~ See **radioelements**.

disintoxicate Detoxicate.

Disipal Trademark for orphenadrine hydrochloride.

disk A round plate. **alundum ~** A porous alundum d.

used as a filter. **bursting ~** A diaphragm designed to rupture at a predetermined pressure, to safeguard against excessive pressure the equipment in which it is fitted.

d. assay The assay of antibiotics using disks dipped in different strengths of test solution and incubated in a medium with the active bacterium. The antibiotic concentration is

- (b) The skeleton—bast fibers, collenchyma, sclerotic parenchyma
2. Nutritive system:
- Absorbing tissues—epithelium of roots, root hairs, etc.
 - Assimilating tissue—chlorophyll parenchyma
 - Conducting tissue—conducting parenchyma, vascular bundles, latex cells
 - Storage tissue—reserve tissue of seeds, bulbs, tubers, and water tissues
 - Aerating system—intercellular spaces, stomata, and lenticels
 - Receptacles for secretions and excretions—glands, oil, resin and mucus canals, crystal sacs
- p. acids** The organic acids in vegetable organisms; as, citric acid (lemons). **p. elements** The elements known to be essential to p. growth: C, H, O, N, S, P, K, Ca, and Mg; traces of Fe, Na, Si, Al, Cl, Cu, Mo, Mn, Zn, B, and F may be essential. **p. food** See *fertilizer*. **p. pigments** The coloring matter of plants, chiefly:
- Chlorophyll pigments**: the green and reddish colors of leaves. Cf. *porphyrin ring*.
 - Carotenoids**, q.v.: the lipochromes or fatty pigments of plants.
 - Flavones and flavanols**, q.v.: the fairly soluble pigments of blossoms and fruits. Cf. *anthocyanins*.
- plantain** The herbaceous tree *Musa sapientum paradisiaca* (Scitamineae); its fruit is the Adam's apple. Cf. *banana*.
- plantose** An albuminous substance from rapeseed.
- plaque** (1) A high-molecular-weight polysaccharide film formed on teeth by cariogenic bacteria. (2) Clear zone in a bacterial culture on an agar plate caused by lysis of bacterial cells due to activity of bacteriophage.
- Plaskon** Trademark for a urea- or melamine-formaldehyde plastic.
- plasma** (1) A green mottled variety of chalcidony. (2) Generally applied to a gas that is sufficiently ionized for its properties to depend on the ionization. It contains approximately equal numbers of positive ions and electrons, so the mixture is electrically neutral, highly conductive, and affected by magnetic fields. A plasma is produced by temperatures above 20,000°C in controlled thermonuclear fusion reactors, such as the tokamak device; it is produced naturally in St. Elmo's fire and in the sun and other stars. (3) The liquid part of the blood, containing p. proteins, fibrinogen, and dissolved metabolites (as, glucose). **dried** ~ Sterile p. obtained by pooling approximately equal volumes of the liquid portions of citrated whole blood from not more than 12 donors; a blood volume replenisher (EP, BP).
- proto** ~ Protoplasm.
- p. protein fraction** A sterile preparation of serum albumin and globulin from healthy donors; used as a dried plasma, particularly for burns (USP, BP). **p. torch** A device in which temperatures up to 35,000°C are obtained by injecting a gas jet (as, argon or nitrogen) tangentially into an electric arc formed between a rod and a nozzle electrode in a chamber. The resulting p. jet of hot gases can be used for welding, cutting hard rock or hard metal, or spraying metal.
- plasmid** A small ring of DNA coated with protein. Plasmids occur in some microorganisms and can confer drug resistance on other cells, but are not part of the hereditary system of the mother cell.
- plasmin*** An active fibrinolytic and proteolytic enzyme in human blood plasma.
- plasminogen** The inactive precursor of plasmin.
- plasmolysis** Dissolution of the protoplasm of a cell when it is bathed in water or a salt solution.

plasmosome Nucleolus.

plastin A substance formed when peptic digests of certain proteins (e.g., insulin) are concentrated and treated with more pepsin under slightly acid conditions.

plaster (1) In pharmacy, a preparation spread on fabric for application to the skin. (2) In general, a paste for coating surfaces or making molds. **adhesive** ~ A mixture of rosin and wax, for coating textiles. **hard-burnt** ~ An insoluble anhydrite.

p. of paris A zeolitic type of hydrated calcium sulfate, made by heating gypsum. Dissolved as $\text{CaSO}_4 \cdot \frac{1}{2}\text{H}_2\text{O}$, it quickly solidifies in the presence of water to $\text{CaSO}_4 \cdot 2\text{H}_2\text{O}$; used to make molds for taking impressions of objects, and to make splints for limbs.

plastic Soft or moldable, pliable. Cf. *plastics*.

plasticity Capability of being formed or shaped in any desired way.

plasticization The conversion of hard, glassy polymers into a soft, rubbery solid by the action of an organic compound, usually an ester.

plasticizer A liquid having a low vapor pressure at room temperatures. Used to (1) modify flow properties, as, of synthetic resins; (2) reduce evaporation rate, as, of a paint solvent; (3) impart flexibility and toughness to a plastic, paint, or varnish film, e.g., phthalates in lacquers. Cf. *lacquer solvent*.

plastics A group of organic materials which, though stable in use at ordinary temperatures, are plastic at some stage of manufacture and then can be shaped by application of heat, pressure, or both. Synthetic rubber and certain inorganic materials, e.g., glass, comply with this definition but are not usually regarded as p. Cf. *elastomer*, *polymer*. See Table 62 on p. 456. **ABS** ~ P. of good impact strength obtained by dispersing an elastomer into a rigid acrylonitrile-butadiene-styrene copolymer. **casein** ~ P. made from milk; as, Galalith. **cellulose** ~ P. made from nitrocellulose and camphor; as, Celluloid. **contact-pressure** ~ P. that form laminates at a pressure of 100 kPa or less. **ethenoid** ~ P. comprising the acrylic, vinyl, and styrene types. **phenol** ~ P. made by condensation of phenol and formaldehyde; as, Bakelite. **rosin** ~ Phenol p. **thermoplastic** ~ P. that become moldable when heated; as, vinyl polymers. **thermosetting** ~ P. that harden irreversibly when heated; as, phenol-aldehyde (Bakelite).

plastisol (1) A plastic used as a solution or emulsion, e.g., for coating. (2) The product resulting from plasticization.

Plastofilm Trademark for a plastic made from reclaimed Pliofilm.

plastometer (1) An instrument to measure the hardness of rubber from the depth of indentation of a hard body. Cf. *Brinell tester*. (2) A device to measure the plasticity of a material by timing its flow through successive increments of length of a capillary tube.

plate A thin sheet of metal, glass, etc., with a flat surface, e.g., silver p. or p. glass. **black** ~ P. for tinning, in the untinned state. **photographic** ~ A glass p. coated with an emulsion containing light-sensitive silver salts. Cf. *chromatic plate*.

p. amalgamation A method of extracting gold from finely crushed ore by floating it over a copper surface coated with mercury.

platelet Blood p. The smallest cell in the blood, diameter 2–4 μm , nonnucleated, containing only dark-staining granules. Platelets are important in normal blood clotting mechanisms.

Platforming Process Patented process for the catalytic

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